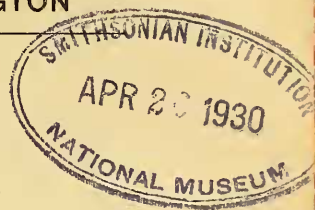


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NEW WESTERN THYSANOPTERA.

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In this paper are described four new genera and seventeen new species, largely from the deserts of California and Arizona. The descriptions are preliminary because it necessarily will be several months before the artist will have completed the illustrations.

All types are in the author's collection.

FAMILY THRIPIDÆ.

Frankliniella fuscicauda, sp. nov.

Female (macropterous).—Length about 1.1 mm. Head and thorax reddish orange, the former less brilliant and shaded with gray; abdomen gray at base, with a slight scattering of yellowish subhypodermal pigmentation, becoming dark blackish brown in last four or five segments; legs yellow, the femora lightly shaded with gray; wings nearly uniform light gray; antennæ blackish brown, with segment 1, basal three-fifths of 3, basal third of 4, and pedicel of 5 paler and yellowish.

Arizona. In the flowers of an undetermined plant.

The brilliant orange thorax, with the brown-tipped abdomen, make this a pretty and easily known species.

Genus *Arpediothrips*, nov.

Body much flattened, glabrous. Head large and very broad, longer than and very nearly equal in width to prothorax. Antennæ eight-segmented; trichomes on segments 3 and 4 forked. Mouth cone long, nearly attaining posterior margin of prosternum, moderately stout; maxillary palpi three-segmented. Pronotum with two pairs of bristles at posterior angles, the outer pair minute and somewhat shorter than a pair at the anterior angles. Wings (when present) with two longitudinal veins which are sparsely but regularly setose throughout their length. Abdominal bristles short and slender.

Genotype: *Arpediothrips mojave* sp. nov.

In its depressed body form—an adaptation to life far down between the closely appressed leaves of *Yucca*—this interesting little thrips departs widely from the genera of its family. It is seemingly a derivative of *Frankliniella*-like ancestors.

Arpediothrips mojave, sp. nov.

Female.—Length about 1.2 mm. Color pale grayish yellow, with ovipositor and parts of mouth cone darker; last three antennal segments gray; ocellar pigment bright red.

Male.—Smaller than female (length about 1.1 mm.) and slenderer, but similarly colored.

Mojave Desert, California. Exceedingly abundant at the bases of the leaves of Tree-yucca.

Genus Psilothrips, nov.

Of undoubted affinities with *Sericothrips* and *Scirtothrips*, resembling both in the finely (but not very distinctly) transversely striate pronotum and the presence of fine pubescence on the sides of the abdominal tergites (this pubescence very brief and consisting of little more than transverse rows of asperities). Fore wings broad, little narrowed beyond basal portion, and with the two complete longitudinal veins dividing the wing into thirds, the anterior vein much less closely setose than posterior vein; no fringe of hairs on anterior margin, but with the usual setæ. Maxillary palpi two-segmented.

Genotype: Psilothrips pardalotus, sp. nov.

Psilothrips pardalotus, sp. nov.

Female (macropterous).—Length about 0.9 mm. Color white, or slightly yellowish; abdominal segments 1-8 each with a transverse dark gray band at base occupying slightly more than the median third; metanotum with two large, and several small, obscure blotches; antennæ shading to light gray in last three segments, all of 1, middle of 2, basal two-thirds of 3, and basal half of 4, nearly white; fore wings with an indistinct gray spot at fork of veins and another similar spot midway to base; ocellar pigment grayish yellow.

Male (macropterous).—Smaller, slenderer, and paler than female; no abdominal markings.

California, Arizona, Texas. One of the characteristic desert species, feeding on a variety of plants, none of which has as yet been determined.

FAMILY PHLÆOTHIRIPIDÆ.

Genus Priesneriella, nov.

Allied to *Trichothrips* and *Lissothrips*, but with six-segmented antennæ, the terminal segment large, pedicellate, and formed by the complete union of segments 6-8; 3 much shorter and narrower than 2. Head short, about as long as broad. Mouth cone semicircularly rounded

apically. Fore tarsi unarmed in the female, armed in the male. Tube short, about one half as long as head, stout.

Genotype: Priesneriella citricauda, sp. nov.

Entirely unlike any other North American genus in that the antennæ are six-segmented. It suggests *Allothrips*, *Bryothrips*, and *Williamsiella*, and is no doubt related to them as well as to *Trichothrips* and *Lissothrips*.

It is named after Dr. Hermann Priesner, of Linz, Austria, who has done more than any other worker to put the taxonomy of the European Thysanoptera upon a sound footing.

***Priesneriella citricauda*, sp. nov.**

Female (apterous).—Length about 1.3 mm. Color uniform dark blackish brown (black to the naked eye), with second antennal segment slightly paler and the tube yellow, shaded with blackish at base and apex. Head very slightly longer than wide, cheeks slightly arched, eyes small, ocelli wanting, postocular bristles moderate in length, pointed. Tube only slightly more than one-half as long as head and about 1.2 times as long as greatest subbasal width.

Male (apterous).—Smaller than female, similarly colored, fore legs often somewhat enlarged, tarsus strongly armed.

| | | | | | | |
|--------------------|----|----|----|----|----|----|
| Antennal segments: | 1 | 2 | 3 | 4 | 5 | 6 |
| Length (μ) | 32 | 44 | 27 | 31 | 38 | 81 |
| Width (μ) | 32 | 28 | 24 | 30 | 29 | 28 |

Palo Alto, California. On dead willow branches.

The size and coloration are strongly suggestive of *Trichothrips flavicauda*, but the antennæ are distinctive.

***Cryptothrips sordidatus*, sp. nov.**

Female.—Length about 2.6 mm. Almost exactly like *C. rectangularis*,¹ but with the entire antenna nearly coal-black, excepting only the yellowish basal portion of pedicel of segment 3; with the subhypodermal pigmentation transparent bright red; and with the postocellar bristles long, nearly half the length of postoculars.

Male.—Smaller than female, and with the fore legs enlarged and the tarsus strongly toothed.

California (Longvale and Palo Alto). On manzanita and willow.

***Hoplandrothrips angustatus*, sp. nov.**

Female (macropterous).—Length about 2 mm. Like *H. microps*² in nearly all respects, differing only in the following: Head 1.4 times as long as wide; posterior ocelli decidedly closer together than their distance from anterior ocellus, the latter situated on the declivitous vertex and not overhanging in macropterous individuals; antennæ with all of segment 3,

¹See Hood, Can. Ent., 40 (9): 307. Figs. 18 and 19. 1908.

²See Hood, Proc. Ent. Soc. Wash., 14 (3): 150. Pl. VII, figs. 7 and 8. 1912.

most of 4, nearly one-half of 5, and pedicel of 6, yellow; subhypodermal pigmentation scarlet, rather than crimson, and disposed in broken blotches which are not at all dense nor subopaque.

Male (brachypterous).—Paler in color than female, the legs being nearly yellow; head longer and slenderer; postocular bristles very long, bent at middle and curving forward. Fore legs enlarged as usual, tarsal tooth large, femora and tibiae armed as usual, but the fore tibia with a distinct triangular tooth at tip within.

Nogales, Arizona. On dead branches of mesquite.

This species and *microps* are the only members of the genus in which the third antennal segment has on the outer surface one sense cone only and the fourth one only on the inner surface.

***Bagnalliella huachuca*, sp. nov.**

Female, forma macroptera.—Length about 1.9 mm. Color dark blackish brown (nearly black to the naked eye), with red subhypodermal pigmentation; antennae yellow, with first two segments concolorous with head and last two segments darkened; tarsi and tips of tibiae yellowish, the fore pair brighter; fore wings with scale and extreme base brownish. *Second antennal segment 1.4 times as long as greatest width; proepimeral bristle much shorter than width of antenna; tube 1.4 times as long as greatest sub-basal width.*

Female, forma brachyptera.—Apparently identical with the long-winged form, save only for the absence of wings.

Male (brachypterous).—Slightly smaller than female; tarsal tooth stronger and fore legs somewhat enlarged.

Huachuca Mountains, Arizona. On *Yucca* sp.

From the other dark-colored species of the genus, excepting *yucca* only, this differs in that the head is not particularly large nor broadened anteriorly, the greatest width being at about the middle and the cheeks curving evenly and similarly to the eyes and to the base of the head. From *yucca*, an eastern species, it differs in the characters which have been emphasized in the above description.

***Bagnalliella mojave*, sp. nov.**

Female, forma macroptera.—Length about 1.9 mm. Color brown, with purplish subhypodermal pigmentation disposed in prominent dense blotches; antennae yellow, with first two segments concolorous with head and last two segments darkened; tarsi and tips of tibiae yellowish, the fore pair brighter; fore wings with scale and extreme base brownish. Head large, broadened anteriorly, its greatest width decidedly in front of middle, the cheeks curving abruptly to eyes and much more gradually to base of head. Antennal segments 5-7 not elongated (respectively 1.4, 1.6, and 2.1 times as long as greatest width); 7 broadest subbasally, abruptly and prominently pedicellate, its sides strongly arched; 8 rounded apically, hardly conical, sides curved; sense cone on inner surface of segment 3 of antenna minute. Proepimeral bristle shorter than width of antenna.

Female, forma brachyptera.—Apparently nearly identical with the long-winged form, save only for the absence of wings.

Male (brachypterous).—Slightly smaller than female; tarsal tooth stronger and fore legs somewhat enlarged.

Mojave Desert, California. On *Yucca* sp.

The enlarged head, the reduction of the sense cone on the inner surface of the third antennal segment, and the form of the antennal segments serve for its ready recognition.

***Bagnalliella desertæ*, sp. nov.**

Female, forma macroptera.—Length about 1.8 mm. Color brown, with red subhypodermal pigmentation which is not disposed in prominent, dense blotches; antennæ yellow, with first two segments concolorous with head and last two segments darkened; tarsi and tips of tibiæ yellowish, the fore pair brighter; fore wings with scale and extreme base brownish. Head large, broadened anteriorly, its greatest width decidedly in front of middle, the cheeks curving abruptly to eyes and much more gradually to base of head. Antennal segments 5–7 elongated (respectively 1.8, 1.9, and 2.35, times as long as greatest width); 7 broadest at apex, not pedicellate, its sides nearly straight; 8 acute, sharply conical, sides straight; sense cone on inner surface of segment 3 of antenna minute. Proepimeral bristle shorter than width of antenna.

Female, forma brachyptera.—Apparently nearly identical with the long-winged form, save only for the absence of wings.

Male (brachypterous).—Slightly smaller than female; tarsal tooth stronger and fore legs somewhat enlarged.

Victorville, California. On *Yucca* sp.

Closest to *mojave*, but differing markedly in the form of the antennal segments.

Bagnalliella arizonæ*, sp. nov.

Female, forma macroptera.—Length about 1.8 mm. Color yellow, with head (excepting narrowly at base) and distal half or two-thirds of tube rather abruptly dark blackish brown, nearly black; legs and antennæ yellow, the latter with segments 1 and 2 largely shaded with blackish brown, 8 gray; wings colorless; subhypodermal pigmentation very pale yellow. Head large, 1.1 times as long as wide. Eyes 0.3 as long as head. Tube only 0.4 as long as head and about 1.33 times as long as basal width.

Female, forma brachyptera.—Apparently identical with the long-winged form, save only for the absence of wings.

Male (brachypterous).—Smaller than female, and with the head and tube generally paler; tarsal tooth stronger and fore legs usually somewhat enlarged.

Arizona, New Mexico and Texas. Abundant on *Yucca* sp.

Related to *B. glauca*, but differing conspicuously in the coloration, larger eye, and shorter tube.

Leptothrips heliomanes, sp. nov.

Female (macropterous).—Length about 1.9 mm. Strictly congeneric with *L. mali* (Fitch), but the fore wings without accessory hairs on posterior margin and the antennal segments differently proportioned, segments 5–8 being relatively much shorter, as shown by the following measurements:

| | | | | | | | | |
|--------------------|----|----|----|----|----|----|----|----|
| Antennal segments: | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Length (μ) | 36 | 56 | 72 | 67 | 53 | 46 | 39 | 28 |
| Width (μ) | 30 | 30 | 23 | 33 | 30 | 26 | 23 | 17 |

Male (macropterous).—Smaller and slenderer than female and with slenderer antennæ.

Palm Canyon (near Palm Springs), California. On an undetermined plant.

Genus **Goniothrips**, nov.

Head longer than wide, vertex not at all produced. Antennæ eight-segmented, *the third segment acutely produced at outer apical angle*, the seventh and eighth rather closely united. Mouth cone short, about attaining middle of prosternum, broadly rounded at tip. Pronotum rather long (in the genotype about 0.7 as long as the head); fore tarsus with a tooth arising from the inner distal angle of the first segment.¹ Wings strongly narrowed at middle. Terminal hairs on tube shorter than tube.

Genotype: Goniothrips denticornis, sp. nov.

The production of the third antennal segment into an acute structure remarkably like that found in most of the species of *Chirothrips* and *Limo-thrips* makes necessary the segregation of the only known species from those of the otherwise closely allied genus *Karnyothrips*.

Goniothrips denticornis, sp. nov.

Female (macropterous).—Length about 1.8 mm. Color dark blackish brown (black to the naked eye), with fore tarsi, apical two-thirds of fore tibiæ, most of antennal segment 2 and all of 3–6, yellow; fore wings lightly clouded at base.

Pecos, Texas. Shaken from grass. One female.

Adraneothrips huachucae, sp. nov.

Female (macropterous).—Length about 1.7 mm. General color dark blackish brown (nearly black to the naked eye), with maroon subhypodermal pigmentation; tarsi, apical half of fore tibiæ, and extreme tips of mid and hind tibiæ, pale yellow, remainder of legs dark blackish brown,

¹Almost as in *Karnyothrips* (for illustration see Hood, Pan-Pacific Ent., 3 (4): 178. Fig. 1, b. 1927).

with the basal portion of fore tibiæ paler; segment 3 of antenna yellow, 4-6 with basal half or more yellow, remainder of antenna blackish brown, the first two and last two segments darkest. Structurally almost exactly like *A. tibialis*,¹ but with the cheeks converging very abruptly to eyes and segment 3 of antenna about 2.25, instead of 1.9, times as long as wide.

Male (macropterous).—Length about 1.4 mm. Slenderer than female. Fore tarsus with a strong, straight tooth.

Ramsey Canyon, Huachuca Mountains, Arizona. On dead oak leaves.

Readily known from *A. tibialis*, with which it agrees in having the eyes acutely prolonged on the ventral surface of the head beyond their posterior dorsal margin and in that the anterior marginal bristles of the prothorax are long and knobbed, by the tibial coloration and the longer third antennal segment.

Liothrips xanthocerus, sp. nov.

Female (macropterous).—Length about 2 mm. Color very dark blackish brown, nearly black, with dull orange subhypodermal pigmentation; fore tarsi and distal half of fore tibiæ yellowish brown; antennæ with segments 3-6 and basal half of 7 clear yellow; fore wings dark gray, paler along margins and at apex; all bristles on head, thorax, and abdomen stout, black, pointed.

Male (macropterous).—Length about 1.7 mm. Like female, but slenderer.

Blythe, California, and Gillespie Dam, Arizona. Among the terminal leaves of a plant which is as yet undetermined.

The coloration of the antennæ and wings is ample for its recognition.

Rhynchothrips rostratus, sp. nov.

Female (macropterous).—Length about 1.4 mm. Separable from all North American species of the genus excepting *tridentatus* (Shull)² by the unarmed fore tarsi, the long head (about 1.26 times as long as wide), the relatively short pronotum (its median length less than that of head), and the non-globose intermediate antennal segments. From *tridentatus* it differs as follows: Fore wings brown throughout instead of clear; distance from posterior dorsal margin of head to frontal costa about 0.65, instead of 0.8, the distance to tip of mouth cone; major setæ on head, thorax, and abdomen pale in color and knobbed at tip, instead of dark and blunt; metanotum indistinctly subreticulate, instead of closely and distinctly longitudinally striate; apices of femora not or only slightly paler than remainder of legs.

Male (macropterous).—Apparently differing from female only in being slightly smaller and possibly more slender.

Arizona. On *Quercus* sp.

¹Ins. Insc. Menstr., 2 (3): 39. Fig. 1. 1914.

²See Hood, Proc. Biol. Soc. Wash., 27: 159. Pl. IV, figs. 4 and 5. 1914.

Megalothrips picticornis, sp. nov.

Female (macropterous).—Length about 4.3 mm. Very much like *M. spinosus*,¹ the only other North American species of the genus, but with segments 3 and 4 of antenna yellow in basal three-fourths and two-fifths, respectively; tube about 0.76 as long as head, instead of about 0.9; all bristles pale, shorter and much less conspicuous, those arising from the proepimera nearly straight and shorter than the median length of pronotum.

Male (macropterous).—Smaller and slenderer than female; segment 6 of abdomen with the usual horn-like processes.

California (Blue Lake) and Utah (Salt Lake City). The specimens from Blue Lake were taken on a dead willow branch; the single Salt Lake specimen was taken May 28, 1879, at an elevation of 4340 feet.

FAMILY UROTHRIPIDÆ.

Stephanothrips bradleyi, sp. nov.

Female (apterous).—Length about 1.3 mm. Color dark blackish brown (nearly black to the naked eye), head darkest; subhypodermal pigmentation of two kinds, one maroon red and quite generally distributed at the sides of head, thorax, and abdomen, the other snow-white by reflected light and narrowly edging the posterior margin of prothorax, metathorax, and abdominal segments 2-7; antennæ with segment 2 pale yellow, 3 yellow at base and brownish yellow at apex, 4 and 5 dark brown; tarsi, apices of mid and hind tibiæ, and bases of all femora paler and more yellowish than remainder of legs; tube brownish yellow, shaded with blackish brown at base and apex. Vertex of head with two pairs of long bristles arising from prominent tubercles. Antennal segments: 2, 44 μ long, 30 μ wide; 3, 84 μ long, 32 μ wide; 4, 34 μ long, 21 μ wide; 5, 41 μ long, 16 μ wide. Ninth abdominal segment about 2.4 times as long as eighth. Tube about 1.14 times as long as head, about 1.6 times as long as ninth abdominal segment, and somewhat more than seven times as long as greatest subapical width.

Male (apterous).—Length about 0.88 mm. Usually paler than female, but essentially like female in structure.

Palo Alto, California. On dead willow branches.

The presence of two, instead of three, pairs of vertical bristles allies this species with the African *buffai* rather than with the Neotropical *occidentalis*. It differs markedly from *buffai*, however, in having the antennæ much stouter, the body dark blackish brown instead of grayish yellow, and in the presence of white markings. I have named it after Dr. J. Chester Bradley the hymenopterist.

¹See Hood, Can. Ent., 40 (9): 306. Figs. 16 and 17. 1908.